

REMARKS

Applicants respectfully request favorable reconsideration of this application, as amended.

Claims 1-6, 8-9 and 12-23 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,413,230 to Haupt et al. (Haupt) in view of U.S. Patent No. 4,972,826 to Koehler et al. (Koehler). The rejection is respectfully traversed.

Independent Claims 1, 13 and 17 recite, *inter alia*, a transmission element for coupling extracorporeal pressure waves into biological tissue, the transmission element having an inwardly curved exit boundary surface — e.g., concavely outwardly opening exit boundary surface, as recited in Claim 13 — configured such that the pressure waves may be coupled into the biological tissue and may be focused in the biological tissue. Claims 1 and 17 additionally recite the transmission element being in the shape of an exponential horn.

As acknowledged on page 4 of the Office Action, the primary reference, Haupt, fails to teach or suggest a transmission element that couples and focuses the pressure wave into the biological tissue. Moreover, contrary to the Office's assertions, Haupt fails to teach or suggest a transmission element having an inwardly curved exit boundary surface — or a concave outwardly opening exit boundary surface, as recited in Claim 13 — configured such that the pressure waves may be coupled into the biological tissue and may be focused in the biological tissue, as recited in Claims 1, 13 and 17. Indeed, Haupt teaches an outwardly curved or convex exit boundary surface (24). See Haupt Fig. 1; specification column 2, lines 64-65; and Certificate of Correction page 1. Haupt additionally fails to teach or suggest a transmission element being in the shape of an exponential horn, as recited in Claims 1 and 17.

The secondary reference, Koehler, fails to supply the above-discussed deficiencies. Note, for example, that Koehler fails to teach or suggest a transmission element being in the shape of an exponential horn, as recited in Claims 1 and 17.

On page 4 of the Office Action, the Office suggests that the Koehler acoustic lens (18), plate-shaped member (19), and various other transmission elements could be incorporated in the Haupt medical instrument to produce Applicants' claimed invention. As can be seen from the following discussion, however, this proposed combination would not be obvious to one of ordinary skill in the art.

In contrast to Applicants' claimed invention as well as the Haupt reference, Koehler is directed to a shock wave generator for use in an extracorporeal lithotripsy apparatus of the type wherein a shock wave is generated and is propagated in a liquid-filled housing, and is focused onto the calculi by a focusing element in the shock wave generator. See Koehler column 1, lines 7-12. The shock wave can be applied to the patient via a liquid-filled sack or bellows (11) located at an exit aperture (10). See Koehler column 5, lines 7-12.

The transmission elements in Applicants' claimed invention and the Haupt reference are elements that couple the pressure waves into the biological tissue. The acoustic lens (18) and plate-shaped member (19) in Koehler Figure 4 do not couple the pressure waves into the biological tissue and accordingly, do not correspond to the transmission element of either Haupt or Applicants' claimed invention. Rather, it is the Koehler sack or bellows (11) that couples the shock wave into the biological tissue and which would therefore correspond to the transmission element in Haupt or Applicants' claimed invention.

Note, however, that the Koehler transmission element (11) is not configured such that pressure waves may be focused in the biological tissue. Koehler teaches the use of

an additional element — i.e., acoustic lens (18) — in order to focus the pressure waves in the biological tissue. Indeed, the Koehler teachings involve aspects of distinct elements that are used in conjunction with a transmission element, rather than aspects of the transmission element itself. Accordingly, one of ordinary skill in the art would not look to combine the Koehler lens (18) with the Haupt transmission element (2) in an attempt to produce Applicants' claimed invention. Therefore, the combination of Haupt and Koehler is not understood as teaching or suggesting Applicants' transmission element as recited in Claims 1, 13 and 17. The rejection of Claims 1, 13 and 17 should be withdrawn accordingly.

Claims 2-6, 8-9, 12, 14-16 and 18-23 depend from independent Claims 1, 13 and 17, respectively, and should be allowed, at least for the reasons discussed previously with respect to Claims 1, 13 and 17. Note, for example, that the applied references neither teach nor suggest an acoustically conductive medium located substantially within the entirety of a concavely outwardly opening exit boundary surface, as recited in Claim 14. Note further, for example, that the applied references neither teach nor suggest a transmission element being in the shape of an exponential horn, as recited in Claims 15 and 16, and as discussed above with respect to Claims 1 and 17.

In view of the above discussion, this application is clearly in condition for allowance and should now be passed to issue.

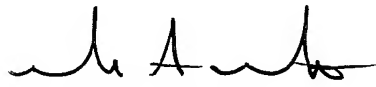
Should the Examiner believe that any further action is necessary to place this application in better form for allowance, the Examiner is invited to contact Applicants' representative at the telephone number listed below.

The Commissioner is hereby authorized to charge to Deposit Account No. 50-1165 (T4494-16088US01) any fees under 37 C.F.R. §§ 1.16 and 1.17 that may be

required by this paper and to credit any overpayment to that Account. If any extension of time is required in connection with the filing of this paper and has not been separately requested, such extension is hereby requested.

Respectfully submitted,

Date: December 22, 2009

By: 
David R. Schaffer
Reg. No. 43,089

Michael A. Minter
Reg. No. 58,797

Miles & Stockbridge, P.C.
1751 Pinnacle Drive
Suite 500
McLean, Virginia 22102-3833
(703) 903-9000